BIOS

Alberta Society of Professional Biologists • September 2003 Volume 18 • Number 3

Integrating Skilled Immigrants

Based on my own and friends' experience as immigrants and a careful reading of the **"Integrating Skilled Immigrants into the Alberta Economy, a Discussion paper for Stakeholder Input"** (May 2003) document, I am pleased to share the following comments with you.

The document is a good starting point. It covers the major variables that affect immigrants' lives during their challenging and painful work search in Canada. However, while the document is a summary of good intentions and projects, it is still far from reality.

The main points covered relate to providing sufficient information to the newcomer, assistance through advice, and assessment of academic credentials. Let me comment on each point at a time.

Finding information is not a big issue if you are a good, systematic and perseverant researcher. There are several good places and tools locally to locate good information.

Assistance through advice is a critical weakness. Almost all Human Resources offices, job employment agencies, employment training programs, and other organizations only provide general information about how to enter the general labour market; but they don't know about the skilled, professional or specialized labour markets. Commonly counsellors are impressed by a resume and indicate that the immigrant will not have difficulties finding a job. However, immigrants typically spend a year or more finding a job.

Assessment of academic credentials is not a relevant problem. The Canadian Embassy evaluates qualifications and credentials in the immigrant's country prior to immigration to Canada. Specialized institutions like the International Qualifications Assessment Service evaluates and certifies diplomas, marks, etc. Professional associations also evaluate the same credentials. At the end, an immigrant can have three assessments that have taken several weeks and several fees, yet is probably still without a job.

It is important to consider that the private sector, the primary employer in Alberta, is not involved in the above processes. After immigrants have coped with all of government's expectations, they are surprised that when they are looking for a job in Canada that the government can't help them. Government can't give you a job until you become a Canadian citizen (see box article p. 6). The only source of a job is the private sector and that sector has different requirements and beliefs about skilled immigrants.

> "The real problem ... is the private sector is not taking the first risk in hiring a newcomer"

The real problem with the current strategy is the private sector is not taking the first risk in hiring a newcomer.

continued on page 6

IN THIS ISSUE

Integrating Skilled Immigrants 1
Member News 2
Tribute to Ian Ross 3
Bios Bits 4
Global Garden Grows Green 5
Integrating Skilled Immigrants cont'd 6
Birdsall Scholarship Recipient 7
National Climate Data 8

Alberta Society of Professional Biologists
P.O. Box 21104
Edmonton, Alberta
T6R 2V4
Tel: (780) 434-5765
or 1-800-711-5765
Fax: (780) 413-0076
E-mail: pbiol@aspb.ab.ca
http://www.aspb.ab.ca

President
Teresa de Grosbois (403) 299-2778
President Elect
Robert Dallas (403) 735-2245
Past President
Judy Bennett (403) 221-3003
Secretary
Maire Luoma (403) 716-8135
Treasurer
Gary Ash (780) 483-3499
Director (Registration Chair)
Doug Collister (403) 246-2697
Director
Bob Shelast (403) 716-8134
Director
Henry Epp (403) 201-2583
Director
Christine Brown (403) 297-8840
Director
Carol Engstrom (403) 298-6175
Public Member
Stuart Ross (403) 777-0111
Registrar
Carl Warner (403) 569-6591
Discipline Committee
Brian Bietz (403) 297-4303
Practice Review Committee
Don McCabe (403) 297-5671
Professional Liaison
Rob Powell (780) 422-1977
Executive Director
Robin Leech (780) 452-1311
Professional Development (Calgary)
Carol Engstrom (403) 298-6175
Professional Development (Edmonton)
Lynn Maslen (780) 452-1311
Communications
Maire Luoma (403) 266-6363
Webmaster
Jim Case (403) 714-9150
Office Administrator
Jill Lane (780) 434-5765

BIOS is written for the enjoyment of the members of the Alberta Society of Professional Biologists and those interested in the field of professional biology. Articles or comments are welcomed and should be communicated to the ASPB Office. Editing and layout by Gavin More, 49 NORTH Creative Learning and Training.

WELCOME NEW MEMBERS

Regular: Vladimir Antonov, Bryon Benn, Jody Bremner, Kerry Brewin, Abbie Dennis, Candace Elchuk, Nicole Glowa, Ron Jones, Lori Lawe, Douglas MacAulay, Andrew MacInnis, Robert McAlpine, Jaret McDonald, Miles Scott-Brown, Eric Stemo and Julie Walker, Jason Wilshusen

Biologist In Training: Jarred Anstett, Robert Buck, Bill Chew, Elvie Cropley, Melissa Judge, Mark O'Flaherty, Laura McCreanor, Patrick Okada

Student: Lane Gelhorn, Gilbert Girvan

Membership Update

ASPB membership as of September 15, 2003: **Total 559**

Regular	453	Biologist in Training	54
Honorary	7	Temporary Withdrawn	26
Student	11	Public Member	1
Associated	4		

Ian Ross Tribute concluded

articles appeared in the prestigious magazine of the American Museum of Natural History: Ross, I. 1994. Lions in winter. Natural History 103(12): 52-59.

Some other activities and accomplishments included:

- President, Alberta Chapter of The Wildlife Society
- Member of the Alberta Wilderness Association for about 20 years
- An avid hiker, hunter and fly fisherman
- 14-year study of cougars in the foothills of southwestern Alberta
- Appeared on CBC Radio's Morningside with Peter Gzowski, and
- Appeared on CBC Radio's Basic Black with Arthur Black.

Ian's family and about 150 of his friends attended a Memorial Service held at the Millarville Racetrack Hall on 27 July 2003. Dr. Steve Herrero emceed a portion of the evening while others shared stories and anecdotes. With family and friends, Ian's ashes were dispersed from Windy Point in the Sheep River Wildlife Sanctuary on 19 August 2003. On that occasion, Lorne Fitch quipped that Ian would have been amused at being carried up the mountain slope in the heat of the day. It was a fitting last trip.

I would like to acknowledge that in part, this tribute contains information from Globe and Mail's Lives Lived column (24 July 2003), and an article written by Ian's brother David with two of Ian's colleagues, Martin Jalkotzy and Jon Jorgenson, which appeared in the Alberta Chapter of The Wildlife Society's Newsletter Vol. 14(3). Martin provided me with notes and comments from the Memorial Service in Millarville.

Garry Hornbeck P.Biol.

Ian Ross, B.Sc., Certified Wildlife Biologist - 1958 to 2003

Ian Ross was born 16 December 1958 in Goderich, Ontario. He died in an aircraft accident in the early evening of 29 June 2003 while Ian was tracking radio-collared lions in the Laikipia district in central Kenya. Ian and an American pilot were killed instantly, according to Dr. Laurence Frank, director of the Laikipia Predator Project. Ian had arrived in Kenya in January and had intended to continue working with lions for at least a year.

Ian was the third of four children born to Burns and Ruth Ross. I understand he spent his childhood wading through muskrat swamps and collecting pelts and animal skulls in Huron County near his home. Ian received an honors B.Sc. in 1982 from the University of Guelph. Shortly after graduation, he moved to Alberta. In 1984, Ian married Sheri MacLaren, also from Goderich. They separated in January 2002.

Ian and I worked together during 1982 to 1985. Ian began his wildlife career working for Dr. Brian Horejsi of Western Wildlife Environments Consulting Ltd. At the time, Brian was building a team of field biologists for a large mammal study. Ian and I captured moose from helicopter, and grizzly and black bears with foot snares. We radio-tracked these animals from fixed-wing aircraft over the rugged terrain of the South Wapiti area, and the foothills and mountains to the west. I recall showing Ian the study area from a Cessna 172. Ian adeptly followed our progress as he sorted successively through a large folder of 1:50,000 topo maps. After this initial exposure to capturing and radio-collaring these large mammals, Ian's experience began to grow and with it his commitment to the wildlife profession.

News of this tragic accident came to me in bits and pieces via email. Initially, I couldn't believe Ian had died in a plane crash, but then the reality grew as I reflected on the fieldwork that we shared; I knew he thrived on dangerous work. On one particular winter afternoon in the South Wapiti, Ian and I were about to place a radio-collar on a female moose when the effects of the immobilizing drug began to wear off. As moose #45 struggled to regain her footing, Ian and I held on, hoping to restrain her for a few more minutes while completing our work. Needless to say, we lost this contest of strength. As she stood up, we bailed off each side of her neck and I recall the sensation of falling from her shoulders to the ground far below. As we hit the ground, we both scrambled to get free of her front legs. Ian was caught on the cheek as one of her front feet came upward. Ian received a cracked cheekbone and was immediately flown to the Grande Prairie hospital for observation.

Ian was well known for his wry smile and ever present dry sense of humour. For example, Ian gave me a photograph of a grizzly bear he had trapped in the South Wapiti while I was rotated out of the field for a few days off. The photo also contained the helicopter pilot kneeling beside the bear. Ian labelled the photo with a caption: "Grizzly 528 (on the right)."

Ian Ross with grizzly bear in Grayling Creek, South Wapiti area during fall 1983
(Photo by G. Hornbeck)

Ian Ross adjusts immobilizing drug in a syringe, South Wapiti area, May 1983
(Photo by G. Hornbeck)

Later in his career, Ian worked tirelessly for the Alberta Chapter of The Wildlife Society. He served as President of the Alberta Chapter in 1996-97. Ian also continued to capture wildlife for other research projects, assisting many graduate students with their research. Ian estimated he had captured over 100 cougars, 100 grizzly bears, 800 bighorn sheep, along with black bears, moose, and mountain goats. Last year his capture work was on the Discovery Channel that showcased grizzly bears.

Ian also made numerous presentations and talks about his work with cougars. One of his best popular

Bios Bits

IAIA Conference - Vancouver 2004

The international IAIA conference is scheduled for April 26-29, 2004 at the Sheraton Wall Centre Hotel in Vancouver. The theme is Impact Assessment for Industrial Development: Whose Business is it? The deadline for submission of papers and posters is October 15th. Details about submission requirements and early registration is available at www.iaia.org.

NA Environmental Law and Policy

The North American Environmental Law and Policy series presents some of the most salient recent trends and developments in environmental law and policy in Canada, Mexico and the United States. Volume 10 includes:

- Public Access to Government-held Environmental Information - Report on North American Law, Policy and Practice (Second Edition), and
- The Precautionary Principle in North American and International Law .

Download a pdf of the policy reports at www.cec.org/

"Alice" Occupational Profiles

ALIS is Alberta's leading on-line gateway for career, learning and employment information and services. The ALIS website, a partnership of Alberta Human Resources & Employment, and Alberta Learning, helps Albertans with career planning, post-secondary education and training, educational funding, job searching, labour market trends, and workplace help.

One section of the website - OCCINFO© - is designed to provide up-to-date information on many different occupations in a format called occupational profiles. Occupational profiles provide specific information regarding a particular occupation or group of occupations in Alberta including descriptions of Duties, Working Conditions, Personal Characteristics, Educational Requirements, Salary, Other Sources of Information

www.alis.gov.ab.ca/occinfo

Beaufort Sea Research

Using new scientific techniques such as satellite-based radio tracking of marine wildlife, researchers are now discovering offshore feeding areas, migratory corridors and glimpsing the vast ranges of ringed seals , beluga , king eider and the endangered bowhead whale. These animals travel between the Beaufort, Bering and Chukchi Seas, an overarching ecosystem that constitutes one of the 200 most globally significant regions for biodiversity.

WWF believes that a representative network of key marine areas should be reserved before further development, safeguarding key wildlife habitats and culturally significant harvesting areas, while leaving other marine areas open for appropriate industrial activities.

Because of the limited ecological understanding and the risk of causing irreparable ecological damage in the Beaufort Sea, WWF strongly advocates a precautionary approach. Oil and gas development should only be undertaken once adequate habitat conservation measures have been put in place. Marine pollution incidents elsewhere in the world have often had devastating impacts on wildlife and coastal communities. As yet there is no proven means for containing oil and toxic spills in iced waters.

WWF staff work directly with communities along the Beaufort coast to form partnerships with local stakeholders. Together, the strong environmental values and local knowledge of the Inuvialuit will be linked with modern conservation science to identify and reserve key marine areas. This will help ensure the continued health of both wildlife and the Inuvialuit culture.

Visit the WWF - Canada website for more information.

NA Working Group on Environmental Enforcement and Compliance

The EWG has a new website focusing on a wide variety of enforcement and compliance issues involving pollution control and fauna and flora in Mexico, the United States and Canada. Areas of focus include:

- Finding solutions to transboundary environmental enforcement problems.
- Improving the interception of illegal shipments of ozone destroying substances.
- Working with the North American Wildlife Enforcement Group on enhancing enforcement of the Convention on International Trade in Endangered Species of Wild Fauna and Flora and other wildlife laws.
- Identifying tracking and compliance problems in the transboundary shipments of hazardous waste.
- Promoting the use of Environmental Management Systems that encourage companies to move "beyond compliance."
- Facilitating discussion on the development and use of indicators to evaluate enforcement and compliance efforts.

Visit www.cec.org/ewg/

GLOBAL GARDEN GROWS GREENER

NASA and the US Department of Energy have concluded that the Earth has been greening over the past 20 years. Appearing in Science magazine in June 2003, the study states climate changes have provided extra doses of water, heat and sunlight in areas where one or more of those ingredients may have been lacking. Plants flourished in places where climatic conditions previously limited growth. As climate changed, plants found it easier to grow.

From 1980 to 2000, changes to the global environment have included two of the warmest decades in the instrumental record; three intense El Niño events in 1982-83, 1987-88 and 1997-98; changes in tropical cloudiness and monsoon dynamics; and a 9.3 percent increase in atmospheric carbon dioxide (CO2), which in turn affects man-made influences on climate. All these changes impact plant growth.

No one knows whether these positive impacts are due to short-term climate cycles, or longer-term global climate changes. Also, a 36 percent increase in global population, from 4.45 billion in 1980 to 6.08 billion in 2000, overshadows the increases in plant growth.

The study includes a global map of the Net Primary Production (NPP) of plants from climate and satellite data of vegetation greenness and solar radiation absorption. NPP is the difference between the CO2 absorbed by plants during photosynthesis, and CO2 lost by plants during respiration. NPP is the foundation for food, fiber and fuel derived from plants, without which life on Earth could not exist. Humans appropriate approximately 50 percent of global NPP.

NPP globally increased on average by six percent from 1982 to 1999. Ecosystems in tropical zones and in the high latitudes of the Northern Hemisphere accounted for 80 percent of the increase. NPP increased significantly over 25 percent of the global vegetated area, but decreased over seven percent of the area, illustrating how plants respond differently depending on regional climatic conditions.

Climatic changes, over approximately the past 20 years, tended to be in the direction of easing climatic limits to plant growth. In general, in areas where temperatures restricted plant growth, it became warmer; where sunlight was needed, clouds dissipated; and where it was too dry, it rained more. In the Amazon, plant growth was limited by sun blocking cloud cover, but the skies have become less cloudy. In India, where a billion people depend on rain, the monsoon was more dependable in the 1990s than in the 1980s.

For more information visit: www.gsfc.nasa.gov/topstory/2003/0530earthgreen.html

Record Weather and Climate Extremes

The United Nations' World Meteorological Association issued a press release describing record extremes in weather and climate events around the world on 2 July 2003.

The organization warns that the number and intensity of extreme events might increase as the global temperatures continue to warm due to climate change.

In June, record high temperatures were recorded across southern France. This resulted in June average temperatures of 5 to 7°C above the long-term average. In Switzerland, the month of June was the hottest in at least the past 250 years.

In the United States, there were 562 tornados during May. The previous monthly record was 399 tornados in June 1992. In the eastern and southeastern part of the US, wet and cold conditions prevailed for well over a month. Precipitation excesses ranged from 50 mm to 350 mm over a period of more than 12 weeks starting in March 2003.

In India, this year's pre-monsoon heat wave brought peak temperatures of between 45°C and 49°C which correspond to weekly temperature departures from the normal of +2 to +5°C.

These record extreme events (high temperatures, low temperatures and high rainfall amounts and droughts) all go into calculating the monthly and annual averages which, for temperatures, have been gradually increasing over the past 100 years.

New record extreme events occur every year somewhere in the globe, but in recent years the number of such extremes have been increasing.

According to the joint WMO/UNEP Intergovernmental Panel on Climate Change (IPCC), the global average surface temperature has increased since 1861. Over the 20th century the increase has been around 0.6°C. This value is about 0.15°C larger than that estimated by the previous reports. Global average land and sea surface temperatures in May 2003 were the second highest since records began in 1880.

New analyses of proxy data for the Northern Hemisphere indicate that the increase in temperature in the 20th century is likely to have been the largest in any century during the past 1000 years and the 1990s were the warmest decade and 1998 the warmest year.

For information visit www.wmo.ch/web/Press/Press695.doc

Skilled Immigrants continued

Lavoie v. Canada

Supreme Court of Canada
March 8, 2002

This case involved an appeal by a group of foreign nationals from a decision of the Federal Court of Appeal dismissing their appeal of a decision of the Federal Court, Trial Division that Section 16(4)(c) of the Public Service Employment Act provided Canadian citizens with preferential treatment in federal Public Service employment. The appellants were a group of foreign nationals who sought employment in the Public Service without having obtained Canadian citizenship. They were each disadvantaged by the application of S.16(4)(c), and they challenged this provision as a violation of their equality rights under S.15(1) of the Canadian Charter of Rights and Freedoms. The Trial Division held that the legislation violated S.15(1), but that it could be justified by S.1 of the Charter.

This appeal was dismissed. The Supreme Court ruled that while Section 16(4)(c) of the Act infringed S.15(1) of the Charter, the government demonstrated that S.16(4)(c) was a reasonable limit on equality and that the objectives behind S.16(4)(c) were sufficiently important to justify limiting the appellants' equality rights. Parliament attempted to achieve the goal of enhancing Canadian citizenship in a manner that respected cultural diversity. Certain features of S.16(4)(c) rendered it less intrusive than it might have been. Finally, the infringing effects of S.16(4)(c) did not outweigh the importance of the objective sought, as the disadvantage to non-citizens relative to citizens did not appear to be significant.

This may be because it costs time and money to teach immigrants new procedures or new ways to do the same work that those immigrants performed in their native countries. The only way to fill those gaps is through work experience. From my point of view and experience, immigrants don't have significant shortcomings in formal education, knowledge or skills. In fact, they were able to enter Canada because of strengths in these areas. The major shortcomings are Canadian experience and specific technical language skills.

Employers don't understand and don't know the differences between foreign skills and countries. Employers think that African education levels are the same as South American levels or that these countries have the same culture or economic situations. These are common misconceptions. Some countries like Colombia have very high education standards and many industries (e.g. oil and power) have a strong framework based on Canadian or multinational companies. In that sense, Colombians have smaller gaps than some countries.

Ads are a huge sophism for immigrants. It is almost impossible for an immigrant to win a public job call although ads say, "we are an equal opportunity employer. We encourage all qualified applicants to submit a resume." The reason is very simple, immigrants don't have Canadian experience, are over-qualified and/or don't have enough English skills.

Specific technical English language skills are another big problem in the strategy. Almost all English programs in the immigrant's native country are focused on survival in general situations but there is a huge gap between casual conversations and business life.

When immigrants discover they can't find an intermediate position they turn to the next alternative and look for an entry level or technical position. However, the next barrier that arises is over-qualification. Employers think that the person will become bored and resign in a couple of months. This is an employer misconception. The question is: "Who will break the over-qualified - non Canadian experience circle?"

"Employers don't understand and don't know the differences between foreign skills and countries "

The weakness with the "**Integrating Skilled Immigrants into the Alberta Economy**" discussion paper approach is that government is focused on more education for immigrants rather than providing work experience. Entering the local economy is not a matter of training in writing resumes or developing interview skills. Private sector employers don't believe in foreign education, foreign skills, foreign knowledge or foreign experience. Even with a local professional designation such as P. Biol., immigrants are always a second option. In other words, credentials are recognized but not respected. Employers always like to see Canadian experience and references in a resume, which is impossible for a newcomer to have at first. The important question is: "Who will break the circle and hire a newcomer for their first job?"

Ricardo Moreno, M.Sc., P.Biol.

Birdsall Scholarship Recipient

I am writing to express my honour and gratitude of having been chosen as this year's recipient of the D. Alan Birdsall Memorial Scholarship. Although I value this award as a much needed source of income, I am equally grateful to be recognized for my achievements and potential as a fisheries ecologist.

I obtained my undergraduate degree in environmental science from York University in Toronto. Upon graduation I was acutely aware that Canada's stocks of freshwater fish were threatened by disturbance and therefore in need of good science from which to inform policy and management. I was equally passionate about boreal ecosystems because they represented one of Canada's largest yet poorly understood regions.

I arrived at the University of Alberta in spring 2000 to develop my skills as an aquatic ecologist. Under the supervision of Dr. William Tonn, I examined the degree to which whole lake, climate related disturbances (e.g. winterkill) influence food webs in small boreal lakes. Specifically, I stocked a fishless lake with northern pike to determine both the response of invertebrates in the lake to pike, and the growth of pike on a diet of invertebrates. Results suggest that food webs in these lakes are largely robust to disturbance over the short term. My research contributes to food web theory and will help resource managers make informed policy decisions about disturbances affecting boreal lake ecosystems (e.g. logging practices and fishing regulations).

My enthusiasm for fisheries science has deepened in the last three years. Encouraged by this scholarship, I plan to complement my background in aquatic ecology by pursuing a PhD in fisheries science, and therefore contribute to the responsible management of our freshwater fish.

Paul Venturelli

Conservation Research At The Calgary Zoo

My name is Lynne Fraser and I was the lucky recipient of the position as Fellowship researcher at the Centre for Conservation Research at the Calgary Zoo in May of 2003. Being a recent graduate of Zoology at the University of Calgary, this position has allowed me to develop many skills I have just learned, and I have also acquired many new skills that will undoubtedly benefit me in the future.

Since starting in May, I have been a part of the many wonderful research projects at the Centre for Conservation Research. I helped a current Masters student in analyzing the behaviour of Vancouver Island Marmots, conducted an extensive literature search on reintroductions of amphibians, and both with the help of others and independently I conducted field research on northern leopard frogs (Rana pipiens). Since the northern leopard frog is a threatened species in Alberta, taking part in its conservation is an invaluable experience.

Northern leopard frogs are currently being reintroduced around Caroline, Alberta, with the goal to re-establish self-sustaining populations in the area. Through the intent to monitor the release and assess the survivorship of the frogs, I had some help from colleagues and volunteers to set-up 10 random arrays used for trapping amphibians at the release site. These arrays consist of silt-fencing arranged in a 'Y' shape, with pitfall traps (buckets buried flush with the ground) at each end and in the middle of the fences. Northern leopard frogs are incredible jumpers, so choosing the right kind of trap that would keep them from escaping was difficult but successful. Hopefully this kind of trap can be used for future amphibian research.

Before each young frog was released, I took a photo of the dorsal spot patterns on the frogs' backs (~ 1000 frogs). As dorsal spot patterns of leopard frogs are unique to each frog, we are hoping to identify each frog that is recaptured by taking another photo and matching the patterns. I also took skin samples of ~ 50 frogs before release to test for disease prevalence.

The traps were randomly placed throughout the release site so that I could monitor the types of habitats that frogs are choosing. Each time I catch a northern leopard frog I test it for chytrid fungus (Batrachochytrium dendrobatidis) (a simple rub of a slide across the chin), take a photo (for future ID) and weigh and measure them. Chytrid fungus is an emerging infectious disease of amphibians that has the potential to be passed from an affected frog to unaffected frogs, thus the presence of the fungus in wild or captive populations is critical to their survival. Since I was also interested in the effect of wood frog (Rana sylvatica) populations on the survivorship of northern leopard frogs, I tested for chytrid fungus on a few random wood frogs found in traps.

Following the fieldwork, I will analyze the data and try to understand a few of the dispersal dynamics of young frogs after their release. I also wrote an article for "Croaks and Trills" (a biannual newsletter on amphibians in Alberta, sent out by Alberta Conservation Association), concerning Zoos and their contribution to amphibian conservation.

It is very difficult to sum up the many tasks that I have undertaken since starting at the Calgary Zoo, but it has been a busy and exciting summer filled with new experiences and responsibilities. Through this position I have gained a tremendous amount of skills, which will be incredibly valuable as I begin my career as a biologist.

Lynne Fraser

National Climate Data and Information Archive

The National Climate Data and Information Archive, operated and maintained by Environment Canada, contains official climate and weather observations for Canada. Climate elements, such as temperature, precipitation, relative humidity, atmospheric pressure, wind speed, wind direction, visibility, cloud types, cloud heights and amounts, soil temperature, evaporation, solar radiation and sunshine as well as occurrences of thunderstorms, hail, fog or other weather phenomena are warehoused in a digital database.

As the official keeper of the nation's weather records, Environment Canada maintains a collection of over 200 million observations from over 7,000 sites some dating as far back as 1840. In July 2003, Environment Canada announced that Canada's vast storehouse of past weather records is now available to the public on a new Web site. Access to selected portions of this data, as well as related products such as CD-ROMs and climate normals and averages are available on this web site. Information regarding obtaining extremes, monthly summaries, microfilm, microfiche, paper documents and technical documents, is also available.

Environment Canada envisions an improved service to those who depend on this information to protect public safety, and to support Canadian business and industry. Health workers can analyze the Web site data to track weather conditions and determine when mosquitoes emerge in the spring so they can plan their programs to deal with West Nile Virus. Forestry companies can calculate how rainfall and other weather conditions affect tree growth and insect infestations. Municipalities can also analyze the information to plan for snow removal and summer tourism, while energy companies can study past temperatures to determine heating and cooling needs for various communities.

New Maps Show Lightning Hot Spots in Canada

Each year, six to ten people are killed by lightning, which is also the cause of 55-60% of all forest fires in Canada. In 1996-2000, 5.3 million hectares of land were burnt by forest fires ignited by lightning. In addition, the severe thunderstorms that spawn the most lightning are often accompanied by hail, damaging winds, heavy rain and even tornadoes, and can cause extensive damage to agricultural and urban areas.

In September 2003, the department released a new series of maps showing lightning hot spots across Canada. These maps will assist weather forecasters in making more accurate predictions of thunderstorms, and also enable lightning prone areas to increase their preparedness for severe weather.

To create the maps, Environment Canada scientists analyzed information from a network of 83 lightning detection instruments that recorded five years of lightning observations. Each detector records all flashes of lightning within a 600 km radius. The network has gives a a much more complete picture of lightning and thunderstorm activity across the country. Previously, lightning was only recorded at weather offices and airports, and there were no records for much of the country. The advanced technology of the new lightning detection network enables weather forecasters to receive information on lightning flashes almost anywhere in Canada, usually within minutes of the flash. Earlier patterns have now been further refined with updated maps posted at www.msc.ec.gc.ca/education/lightning/.

Lightning happens more frequently than previously thought. Canada receives approximately 2.7 million flashes of lightning per year. Canada's three lightning "hot spots" where lightning occurs most frequently are southwestern Ontario, the southern Manitoba Saskatchewan border, and the Alberta foothills.

Edmonton Professional Development Committee

For the upcoming fall and winter, the EPDC would like to invite all ASPB members to a series of seminars and tours. For information call 413-6079 or email rzolkiew@envirotest.com

The tentative schedule is:

September - Food Safety and Mad Cow Disease
October - Endocrine Disruptors
November - Species at Risk Update
January - Molson's Tour and January Jocular
February - Bear Month
March - TBA
April - Wetlands - Nature's Filter

Rick Zolkiewski P.Biol.